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## CYCLE TYPE MACHINE FOR EBW OF GEAR COMPONENTS FOR THE AUTOMOTIVE INDUSTRY MODEL UL-157

An extremely high power density at the focus of the beam, narrow welds and heat-affected zones with little distortion of the toothed gear wheels due to the high welding speed.

PLC of all machine systems.

Visualization of the weld zone by VCU system on the basis of secondary electron emission ( $\times 10$ -magnification).

High stability power source with electron tube flashless system.

### Machine design

- 6-component positioning rotary table with pneumatic-lift for up-down moving of the workpiece lower chamber;

- workpiece upper chamber with the rotation mechanism;
- vacuum evacuation system;
- high-voltage source 15 kW, 60 kV;
- control system on Siemens PLC;
- video control unit.

The EB gun can slide transversely relative to the upper work chamber shifting the beam axis to the respective positions when welding seams of different diameters.

The entire working sequence, including evacuating, rotating the workpiece, welding and changing the workpiece is carried out automatically according to a preset program and with a high degree of reproducibility of the set welding parameters.



Contacts: Prof. Nazarenko O.K.

E-mail: [nazarenko@technobeam.com.ua](mailto:nazarenko@technobeam.com.ua)

<http://www.nas.gov.ua/pwj/beam>

<http://paton.kiev.ua/eng/inst/ntkstructure/deplist/571.html>